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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/840,165	05/06/2004	Gunther Dreezen	3095.EEM	7511
7590	10/26/2004			
Charles W. Almer National Starch and Chemical 10 Finderne Avenue Bridgewater, NJ 08807			EXAMINER THOMAS, ERIC W	
			ART UNIT 2831	PAPER NUMBER

DATE MAILED: 10/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/840,165

Applicant(s)

DREEZEN ET AL.

Examiner

Eric W Thomas

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 22-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-21, drawn to a capacitor, classified in class 361, subclass 306.3.
  - II. Claims 22-29, drawn to a method of forming a capacitor, classified in class 29, subclass 25.42.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the termination can be formed on one capacitor and can be formed from a paste material.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. Chuck Almer on 10/19/04 a provisional election was made with traverse to prosecute the invention of I, claims 1-21. Affirmation of this election must be made by applicant in replying to this Office action. Claims 22-29 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. \*It is noted that the examiner interpreted claims 28 and 29 as if they depend on claim 22.

Art Unit: 2831

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishizawa et al. (JP 03-270003).

Regarding claim 1, Nishizawa et al. disclose in the abstract a termination coating for use with a ceramic capacitor comprising a thermosetting resin and conductive filler.

Regarding claim 2, Nishizawa et al. disclose the surface mount component is a multilayer ceramic capacitor.

Regarding claim 3, Nishizawa et al. disclose the electrically conductive filler is nickel (abstract).

Regarding claim 19 and 20, Nishizawa et al. disclose the coating maybe cured at a temperature of less than 230°C (abstract).

3. Claims 1-2, 5-6, 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakagawa et al. (US 6,388,864).

Nakagawa et al. disclose in fig. 3, disclose a termination coating for use with a ceramic capacitor comprising a thermosetting resin and conductive filler.

Regarding claim 2, Nakagawa et al. disclose the surface mount component is a multilayer ceramic capacitor.

Regarding claim 5, Nakagawa et al. disclose the surface mounted component is a base metal multilayer ceramic capacitor.

Regarding claim 6, Nakagawa et al. disclose the resin is an epoxy resin (col. 4 lines 30-35).

Regarding claim 18, Nakagawa et al. disclose a base metal capacitor having the coating of claim 1.

Regarding claim 19, Nakagawa et al. disclose the coating maybe cured at a temperature less than 300 degree Centigrade.

4. Claims 1-4, 9-15, 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Su et al. (US 4,999,136).

Regarding claim 1, Su et al. disclose in the abstract a termination coating (col. 1 lines 45-55) comprising a thermosetting resin (col. 4 lines 40-65) and conductive filler (col. 4 line 5). Regarding the limitation, "for use with a surface mount component" is an intended use for the coating. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate

the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).

Regarding claim 2, Su et al. disclose the coating material. Regarding the limitation, "surface mount component is a multilayer ceramic capacitor" is an intended use for the coating. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).

Regarding claim 3, Su et al. disclose the electrically conductive filler is copper (col. 7 lines 2-12).

Regarding claim 4, Su et al. disclose the electrically conductive filler is copper powder (col. 7 lines 2-12).

Regarding claim 9, Su et al. disclose the termination has a catalyst (col. 4 lines 55-65) or hardener (col. 4 lines 55-65).

Regarding claim 10, Su et al. disclose the coating comprises in the range of about 3 to about 25 weight percent of the resin (col. 4, lines 15-25, 40-55; col. 7 lines 19-25).

Regarding claim 11, Su et al. disclose the coating comprises in the range of about 5 to about 15 weight percent of the resin (col. 4, lines 15-25, 40-55; col. 7 lines 19-25).

Regarding claim 12, Su et al. disclose the coating comprises in the range of about 30 to 90 weight percent of the conductive filler (see col. 7 lines 19-25).

Regarding claim 13, Su et al. disclose the coating comprises in the range of about 40 to 80 weight percent of the conductive filler (see col. 7 lines 19-25).

Regarding claim 14, Su et al. disclose the coating comprises a hardener of about 0.01 to about 1 weight percent (col. 4 lines 55-65)

Regarding claim 15, Su et al. disclose the coating comprises a hardener of about 1 weight percent (col. 4 lines 55-65)

Regarding claim 17, Su et al. disclose the coating contains a catalyst of about 0.01 to about 1 weight percent (col. 4 lines 55-65)

5. Claims 1-4, 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakagami et al. (JP – 2002-332502).

Sakagami et al. disclose a paste comprising a thermoplastic or thermosetting resin and an electrically conductive filler (see paragraph 31). The paste is used in the production of ceramic capacitors (paragraph 3)

Regarding the limitation, “a termination coating for use with a surface mount component” is an intended use for the paste. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Regarding claim 2, Sakagami et al. disclose the paste is used in a ceramic capacitor (paragraph 3).

Regarding claim 3, Sakagami et al. disclose the electrically conductive filler is a copper powder (paragraph 12).

Regarding claim 4, Sakagami et al. disclose the electrically conductive filler is a copper powder (paragraph 12).

Regarding claim 7, Sakagami et al. disclose the copper powder is coated with an organic material (paragraphs 15-18).

Regarding claim 8, Sakagami et al. disclose the copper powder is coated with a fatty acid (paragraph 12).

6. Claims 1, 9, 14, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Abe et al. (US 6,402,013).

Abe et al. disclose a paste comprising a thermoplastic or thermosetting resin and an electrically conductive filler (abstract, col. 4 lines 20-26).

Regarding the limitation, "a termination coating for use with a surface mount component" is an intended use for the paste. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Regarding claim 9, Abe et al. disclose the paste includes a hardening agent (col. 6 lines 65-68, col. 7 lines 1-2), and a thixotropic agent (col. 6 lines 55-60).

Regarding claim 14, Abe et al. disclose the hardening agent is contained in the paste about 0.5 wt. % (col. 7 lines 50-55, table 1).

Regarding claim 16, Abe et al. disclose the thixotropic agent is contained in the paste about 0.1-7 weight percent.



***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US 6,388,864).

Nakagawa et al. disclose the claimed invention except for the metal powder is formed from a copper flake, copper powder, silver-plated copper, nickel, silver plated nickel, cobalt, cobalt nickel alloy, indium or mixtures thereof.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the filler from a copper powder, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of

its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 4, the modified Nakagawa et al. disclose the filler is a copper powder.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (US 6,402,013).

Abe et al. disclose the claimed invention except for the hardener is contained in about 1 to about 5 weight percent.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the coating to have a hardener content of about 1 to about 5 weight percent, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

11. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US 6,388,864) in view of Amano et al. (US 5,712,758).

Nakagawa et al. disclose the claimed invention except for the termination coating is formed on a metal-glass termination.

Nakagawa et al. illustrates in fig. 3, the claimed terminal coating (31) formed over an inner termination coating layer. Nakagawa et al. teach that the composition is not limited to a particular material.

Amano et al. teach that inner electrodes formed of a metal-glass composition.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the inner terminal electrode of Nakagawa et al. from the metal-glass composition of Amano et al., since such a modification would improve the resistance to both soldering heat impact and cyclic thermal impact.

### ***Conclusion***

In order to ensure full consideration of any amendments, affidavits, or declaration, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be a final action, will be governed by the requirements of 37 CFR 1.116 which will be strictly enforced.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric W Thomas whose telephone number is 571-272-1985. The examiner can normally be reached on M,Tu,Sat 9 am - 9:30 pm; W, Th, F 6 pm -10:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2831

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



10/25/04

Eric W Thomas  
Examiner  
Art Unit 2831

ewt